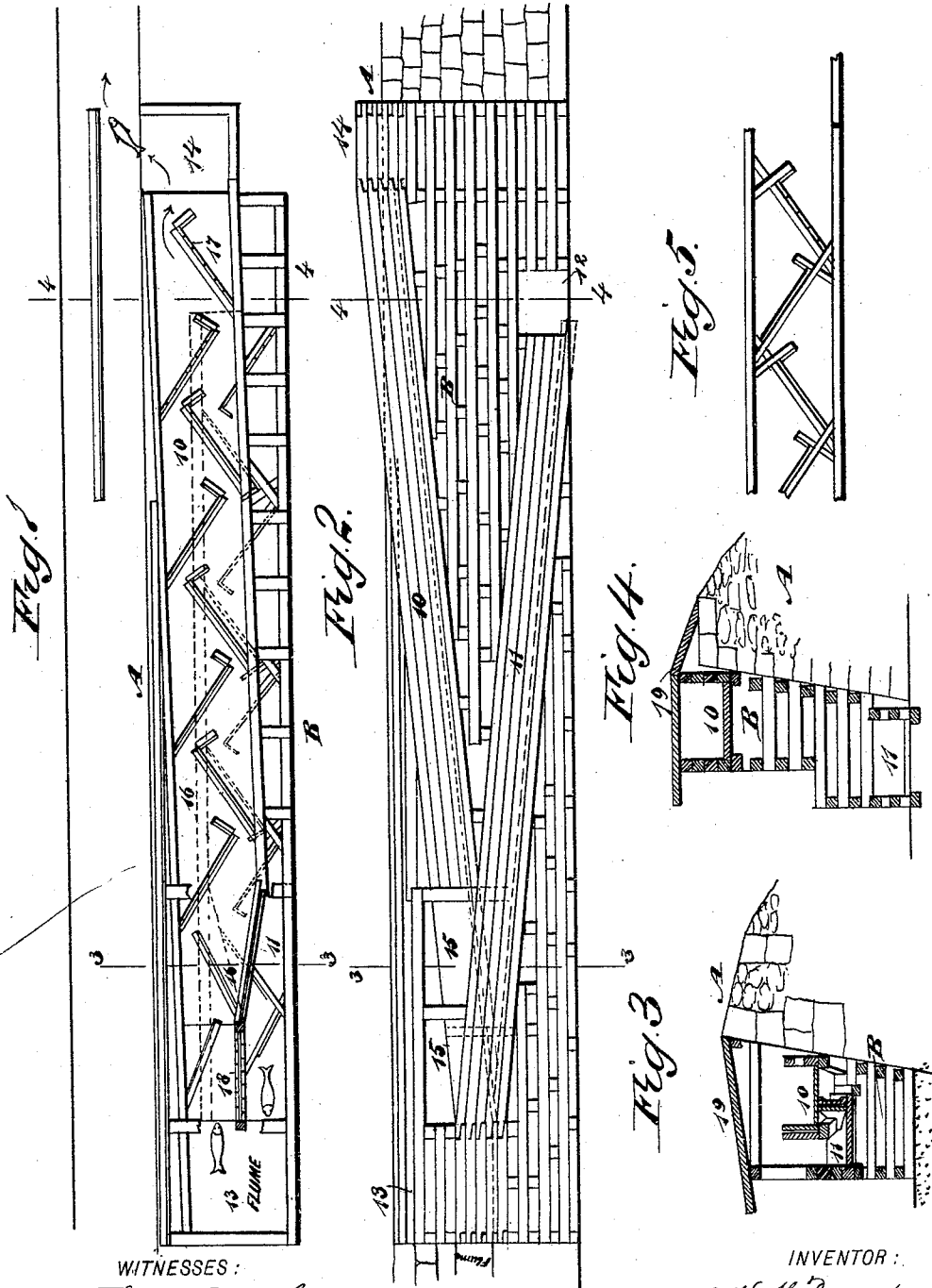


(No Model.)

W. H. ROGERS.
FISHWAY.

No. 484,676.

Patented Oct. 18, 1892.



WITNESSES:
W. H. Rogers
C. Sedgwick

INVENTOR:
W. H. Rogers
BY *Mumford*
ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM H. ROGERS, OF AMHERST, CANADA.

FISHWAY.

SPECIFICATION forming part of Letters Patent No. 484,676, dated October 18, 1892.

Application filed March 26, 1892. Serial No. 426,549. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY ROGERS, of Amherst, in the county of Cumberland, in the Province of Nova Scotia and Dominion of Canada, have invented a new and useful Improvement in Fishways, of which the following is a full, clear, and exact description.

My invention relates to an improvement in fishways, and has for its object particularly to improve upon the construction of the fishway for which Letters Patent were granted to me June 15, 1880, No. 228,936; and a further object of the invention is to construct the fishway or channel in such a manner that it may be built below the dam and be inclosed in a strong cribwork of any approved construction, and by thus locating the fishway I am enabled to secure an entrance for the fish close to the dam or obstruction and at a point where the fish will readily find the opening. The upper flume and the upper end of the fishway leading into the flume are constructed in such a manner as to extend above the dam any desired distance, and the flume and upper fishway are protected from floods and ice by a suitable covering.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the fishway, the shed being removed therefrom. Fig. 2 is a side elevation of the fishway, showing a portion of the dam. Fig. 3 is a transverse section taken, practically, on the lines 3 3 of Figs. 1 and 2, illustrating the upper and lower channels or fishways at a point near their intersection or connection with the end flume. Fig. 4 is a transverse section taken, practically, on the lines 4 4 of Figs. 1 and 2, illustrating the entrance to the lower fishway or channel and that portion of the upper fishway or channel elevated above the dam; and Fig. 5 is a detail sectional view illustrating improvements in the construction and bracing of the cribwork.

The dam A may be of any suitable or approved construction and may be built of stone or of wood or of any desired material. The object of the invention, as has been heretofore stated, is to pass the fish over the top of the dam instead of through its base and without cutting the dam in any manner or removing any of the upper stones or those in the upper portion of the structure. Consequently the fishway is located at one side of the dam and parallel with it. There are two fishways or channels 10 and 11, and these fishways or channels are supported by a cribwork B of any well-known formation. Near one end of the cribwork at the bottom thereof an opening 12 is made, which is the inlet opening or entrance for the fish. Immediately in front of and in communication with this inlet opening the lower end of the lower fishway or channel 11 is located, and this fishway or channel extends upward with a rise of about one to about nine or ten until at its opposite end it shall have been carried up to about one-half the height of the dam. At this point a flume 13 is erected, the upper end of the lower fishway leading directly into this flume. The lower way now turns upon itself to form the upper way 10, the lower end of this upper fishway or channel being practically flush with the floor of the flume 13. This upper fishway or channel is placed at an upward inclination, the upper end thereof being about one to two feet above the top of the dam, as may be needed, and is in direct communication with a second flume 14, which also extends above the dam from one to two feet, as may be required. Near where the two fishways or channels are brought together—that is, in front of the rear flume 13—an opening 15 is made in the crib.

Each fishway or channel 10 and 11 is provided with diagonally-located floor-cleats or baffle-plates 16, their arrangement being staggered, so as to produce a tortuous or spiral path for the fish in ascending or in descending these channels. These floor-cleats or baffle-plates are supported and braced by suitable buffet-planks 17, or any other approved form of bracing may be utilized. Each baffle-plate is preferably made more or less angular or L-shaped in cross-section, and they are vertically located with respect to the chan-

nel or fishway with which they are to be used; but those baffle-plates adjacent to the rear flume 13 may be made straight, as shown in Fig. 1, and this arrangement is preferably carried out.

It will be understood that there is a division 18 between the two channels or fishways where they merge into the rear flume 13, as shown in Fig. 1. Thus fish ascending the lower channel or fishway will enter the flume 13, as shown in Fig. 1, and from the flume they may readily enter the upper fishway 10, and vice versa.

As a protection from floods and ice, a strong sloping shed 19, preferably of hard-wood timber, is constructed over the upper fishway and the flumes and partially over the top of the dam, as shown in Figs. 3 and 4. One of the principal advantages of raising the fishways above the dam is to prevent the water from falling over the dam, and thereby closing up the lower entrance 12. Were it not for the upper flume 14 and the protection against ice and falling water fish could not enter the fishways or channels.

The fishways or channels may be applied to either a perpendicular dam or one with considerable batter. The whole structure—that is, the crib and the fishways—is firmly anchored to the dam, preferably by split wedge-bolts, and is pressed close to the bottom by heavy nuts and screws on the outside of the structure; but this feature constitutes no portion of the invention, as the structure may be anchored and secured to the dam in any approved manner. Ordinarily the entire lower portion of the cribwork is loaded down with stone ballast.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a dam, of a cribwork arranged at one side thereof, the said cribwork containing two fishways or channels, one rising from an opening in the bottom of the crib upward to about half the height of the dam and a second fishway or

channel in communication with the upper end of the lower channel or fishway, the upper end of the upper fishway or channel extending above the top of the dam, substantially as shown, and for the purpose specified.

2. The combination, with a dam, of a cribwork constructed alongside one face thereof, the said cribwork being provided with a flume at one end below the upper level of the dam and a flume at the opposite end extending above the top level of the dam, a fishway or channel leading from an entrance-opening produced in the bottom of the cribwork and terminating in a connection with the lower flume, and a second fishway or channel in communication at its lower end with the lower flume and having communication at its upper end with the upper flume, as and for the purpose set forth.

3. In the construction of fishways, the combination, with a dam, of a cribwork erected at one side of the dam, parallel therewith and provided with an entrance-opening near one end at the bottom, the said cribwork having a flume formed therein at one end below the upper edge of the dam and a second flume at the opposite end and extending beyond the upper level of the dam, a lower fishway or channel, the lower end of which communicates with the lower entrance-opening in the crib, the upper end of said fishway or channel being in direct communication with the lower flume, a second and upper fishway or channel, the lower end of which is in communication with the lower flume and the upper end of the lower fishway or channel, the upper end of the upper fishway or channel being carried above the upper level of the dam to a direct communication with the upper flume, and both of the fishways or channels being provided with baffle-plates arranged diagonally in a staggered order, as and for the purpose set forth.

WILLIAM H. ROGERS.

Witnesses:

C. M. TRUEMAN,
WINFRED FOWLER.